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RUCKUS® PRODUCT GUIDE

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	R760	R850	R750	R560	R650	R550
Feature/Description	High-end 802.11ax 4x4 tri-concurrent AP with MU-MIMO, BeamFlex+ and 10Gbps backhaul	High-end 802.11ax 8x8 dual-concurrent AP with MU-MIMO, BeamFlex+ and 5Gbps backhaul	High-end 802.11ax 4x4 dual-concurrent AP with MU-MIMO, BeamFlex+ and 2.5Gbps backhaul	Mid-range 802.11ax 2x2 tri-concurrent AP with MU-MIMO, BeamFlex+ and 5Gbps backhaul	Mid-range Wi-Fi 6 (802.11ax) dual-concurrent AP with MU-MIMO and BeamFlex+	Mid-range Wi-Fi 6 (802.11ax) dual-concurrent AP with MU-MIMO and BeamFlex+
Maximum PHY rate	4800 Mbps (6GHz) 2400 Mbps (5GHz) 1148 Mbps (2.4GHz)	4800 Mbps (5GHz) 1148 Mbps (2.4GHz)	2400 Mbps (5GHz) 1148 Mbps (2.4GHz)	2882 Mbps (6GHz) 1237 Mbps (5GHz) 591 Mbps (2.4GHz)	2400 Mbps (5GHz) 574 (2.4GHz)	1200 Mbps (5GHz) 574 Mbps (2.4GHz)
Wi-Fi technology	802.11ax (2.4GHz, 5GHz, 6GHz) Wi-Fi CERTIFIED 6E™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4GHz, 5GHz, 6GHz) Wi-Fi CERTIFIED 6E™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™
Concurrent users	1536	1024	1024	1536	512	512
Radio chains:streams (MU-MIMO)	6GHz: 4x4:4 5GHz: 4x4:4 2.4GHz: 4x4:4	5GHz: 8x8:8 2.4GHz: 4x4:4	4x4:4	6GHz: 2x2:2 5GHz: 2x2:2 2.4GHz: 2x2:2	5GHz: 4x4:4 2.4GHz: 2x2:2	2x2:2
Antenna patterns (per band)	4,000+	4,000+	4,000+	4,000+	128	64
Antenna gain	Up to 4dbi	Up to 2dbi	Up to 3dbi	Up to 4dBi	Up to 3dBi	Up to 3dBi
PD-MRC	✓	✓	✓	✓	✓	✓
Rx sensitivity (2.4/5GHz/6GHz)	-98/-96/-97dBm	-101dBm	-102dBm	-94dBm	-101dBm	-103dBm
ChannelFly	✓	✓	✓	✓	✓	✓
SmartMesh	✓ *	✓	✓	✓	✓	✓
USB (IoT Ready)	✓	✓	✓	✓	✓	✓
Ethernet ports	1x 1/2.5/5/10 Gbps 1x 10/100/1000 Mbps	1x 1/2.5/5 Gbps 1x 10/100/1000 Mbps	1x1 GbE 1x2.5 GbE	1x 1/2.5/5 Gbps 1x 10/100/1000 Mbps	1 x 1 GbE 1 x 2.5 GbE	2 x 1 GbE
Integrated BLE/ZigBee	✓	✓	✓	✓	✓	✓
WLAN Control and Management	• SmartZone • RUCKUS Cloud*	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud

Feature/Description	R350	H550	H350
	Entry level Wi-Fi 6 (802.11ax) dual-concurrent AP with BeamFlex+	Wall-mount Wi-Fi 6 (802.11ax) AP dual-concurrent, five GbE ports, IoT gateway, BeamFlex+	Wall-mount Wi-Fi 6 (802.11ax) AP dual-concurrent, three GbE ports, IoT gateway, BeamFlex+
Maximum PHY rate	1200 Mbps (5GHz) 574 Mbps (2.4GHz)	1200 Mbps (5GHz) 574 Mbps (2.4GHz)	1200 Mbps (5GHz) 574 Mbps (2.4GHz)
Wi-Fi technology	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™
Concurrent users	256	512	512
Radio chains:streams (MU-MIMO)	2x2:2	2x2:2	2x2:2
Antenna patterns (per band)	64	16	16
Antenna gain	Up to 3dBi	Up to 1dBi	Up to 1dBi
PD-MRC	✓	✓	✓
Rx sensitivity (2.4/5GHz)	-101dBm	-100dBm	-100dBm
ChannelFly	✓	✓	✓
SmartMesh	✓	✓	✓
USB (IoT Ready)	✓	✓	—
Ethernet ports	1 x 1GbE	5 x 1GbE	3 x 1GbE
Integrated BLE/ZigBee	—	✓ (concurrent)	✓
WLAN Control and Management	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud

RUCKUS IoT Modules

i100	
Protocol	• Zigbee 3.0, BLE, iBeacon, Eddystone (software configurable)
Device Capacity	• 25 (Zigbee) • 12 (BLE)
Interfaces	• USB 2.0, Type A
Memory	• RAM: 256KB • Flash: 1MB
Output Power	• 16.5dBm (max)
Power Consumption	• 500mW (max)
Current Draw	• ~100mA on 5V (max)
Mechanical	• Dimensions: 47.83 x 18 x 8.25mm • Max weight: 85 grams
Temperature	• -40 to 70ºC
Certifications	• FCC and ETSI

Feature/Description	T750	T750se	T350c	T350d	T350se	T811-CM
	High-end Wi-Fi 6 (802.11ax) dual-concurrent AP with MU-MIMO and BeamFlex+	High-end Wi-Fi 6 (802.11ax) dual-concurrent AP with MU-MIMO and BeamFlex+ and internal sectorized antenna	High-density outdoor AP series 2x2:2 (5GHz) + 2x2:2 (2.4GHz) Wi-Fi 6 with integrated BeamFlex+ adaptive internal antennas with polarization diversity	High-density outdoor AP series 2x2:2 (5GHz) + 2x2:2 (2.4GHz) Wi-Fi 6 with integrated BeamFlex+ adaptive internal antennas with polarization diversity	High-density outdoor AP series 2x2:2 (5GHz) + 2x2:2 (2.4GHz) Wi-Fi 6 with integrated BeamFlex+ adaptive internal sectorized antennas with polarization diversity	Outdoor 4x4:4 2.4/5GHz 802.11ac Wave 2 Wi-Fi access point with DOCSIS 3.1 backhaul
Maximum PHY rate	2400 Mbps (5GHz) 1148 Mbps (2.4GHz)	2400 Mbps (5GHz) 1148 Mbps (2.4GHz)	2.4GHz: 574 Mbps 5GHz: 1200Mbps	2.4GHz: 574 Mbps 5GHz: 1200Mbps	2.4GHz: 574 Mbps 5GHz: 1200Mbps	1733 Mbps (5GHz) 600 Mbps (2.4GHz)
Wi-Fi technology	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ac (5GHz) 802.11n (2.4GHz)
Concurrent users	1024	1024	512	512	512	512
Radio chains:streams (MU-MIMO)	4x4:4	4x4:4	2x2:2 (5GHz) + 2x2:2 (2.4GHz)	2x2:2 (5GHz) + 2x2:2 (2.4GHz)	2x2:2 (5GHz) + 2x2:2 (2.4GHz)	4x4:4
Antenna patterns (per band)	4,000+	4,000+	64	64	64	4,000+
Antenna gain	Up to 3dBi	2.4GHz: 6dBi 5Ghz: 8dBi	Up to 3dBi	Up to 3dBi	2.4GHz: 6dBi 5Ghz: 8dBi	Up to 3dBi
PD-MRC	✓	✓	✓	✓	✓	✓
Rx sensitivity (2.4/5GHz)	-103dBm	-103dBm	-101dBm	-101dBm	-101dBm	-98/-97
ChannelFly	✓	✓	✓	✓	✓	✓
SmartMesh	✓	✓	✓	✓	✓	✓
Ethernet interface	1 x 1 GbE 1 x 2.5 GbE	1 x 1 GbE 1 x 2.5 GbE	1x 1GbE	1x 1GbE	1x 1GbE	1 x 1GbE
USB (IoT Ready)	✓	n/a	n/a	✓	✓	✓
Fiber interface	✓	✓	n/a	n/a	n/a	✓
GPS	✓	✓	n/a	n/a	n/a	✓
Integrated BLE/ZigBee	✓	✓	n/a	✓	n/a	n/a
WLAN Control and Management	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone

	SmartZone			
Feature	**SmartZone 144**	**SmartZone 300**	**Virtual SmartZone-E**	**Virtual SmartZone-H**
Number of APs supported	Up to 2,000 / 6,000 per cluster	Up to 10,000 / 30,000 per cluster	Up to 1,024 / 3,000 per cluster	Up to 10,000 / 30,000 per cluster
Number of switches supported	Up to 400 / 1,200 per cluster	Up to 2,000 / 6,000 per cluster	Up to 200 / 600 per cluster	Up to 2,000 / 6,000 per cluster
Number of clients supported	Up to 40,000 / 120,000 per cluster	Up to 100,000 / 450,000 per cluster	Up to 25,000 / 60,000 per cluster	Up to 100,000 / 300,000 per cluster
Ethernet ports	4 x GbE ports 4 x 10 GbE ports (SFP+)	6 x 1GbE ports 4 x 10GbE ports (SFP+)	1 vNIC	1 or 3 vNIC
Authentication support	802.1X, MAC address	802.1x, Local database, Active Directory, RADIUS, LDAP	802.1x, Local database, Active Directory, RADIUS, LDAP	802.1x, Local database, Active Directory, RADIUS, LDAP
Guest networking/captive portal	✓	✓	✓	✓
DHCP server	External or Assigned	External or Assigned	External or vSZ-D assigned	External or vSZ-D assigned
AP discovery and control	L2 / L3	L2 / L3	L2 / L3	L2 / L3
WLANs	Up to 2,048 per cluster	Up to 2,048 per zone Up to 65,534 per cluster	Up to 2,048 per cluster	Up to 2,048 per zone Up to 65,534 per cluster
Management Interface	Web GUI, CLI	Web GUI, CLI	Web GUI, CLI	Web GUI, CLI
Remote Management	Yes	Yes	Yes	Yes
Management protocol(s)	SNMP v3, RESTful JSON	SNMP v3, RESTful JSON	SNMP v3	SNMP v3
VLAN support	Dynamic VLANs	Dynamic VLANs	Dynamic VLANs	Dynamic VLANs
Data Plane	Tunneling or local breakout	Tunneling or local breakout	Tunneling or local breakout	Tunneling or local breakout
Power supply	AC, Field Replaceable	DC or AC, Field Replaceable	N/A	N/A
Fans	Field Replaceable	Six redundant, field swappable fans in three sets	N/A	N/A
SKU/Part number	P01-S144-XX00	901-S300-WW10/00	L09-VSCG-WW00	L09-VSCG-WW00

SmartZone	
	SmartZone Data Plane
Secured data plane tunneling	Enables forwarding of user data traffic through secure tunnels on RUCKUS APs when managed by Virtual SmartZone controllers.
Multiple hypervisor support	Supports the most widely deployed VMware and KVM hypervisors
NFV flexible architecture	Complete separation of Control+Management plane (vSZ) and data plane functions (SmartZone Data Plane) via separate VMs that support distributed and centralized deployments providing compelling architecture flexibility.
Works seamlessly with virtual SmartZone	vSZ acts as the controller for RUCKUS APs as well as SmartZone Data Plane providing seamless configuration and management capabilities.
Up to 10 SmartZone Data Planes per vSZ and up to 40 SmartZone Data Planes per cluster	The vSZ controller runs in Active/Active (3+1) mode for extremely high availability. Each SmartZone Data Plane runs as an independent virtual machine instance that is managed by the vSZ controller.
vSZ Zone affinity for SmartZone Data Plane	This feature enables RUCKUS APs in a particular zone establish tunnels with the SmartZone Data Plane in that particular zone. Provides flexibility for distributed and managed services deployments where the SmartZone Data Planes can be co-located on-premise with RUCKUS APs (vSZ Zones) on medium/large high density sites that need tunneling. With up to 40 SmartZone Data Planes per cluster, the SZ 3.5 release can potentially support a large number of such distributed deployments.
DHCP server and NAT	This feature enables a high scale DHCP Server on the SmartZone Data Plane. The DHCP Server is a high-scale server specifically designed and architected for Wi-Fi deployments that provide near-real time IP address assignment combined with NAT this provides tremendous value to the operator since it avoids mac-address scaling limits and high costs on the network infrastructure (switches).
Legal Intercept	This feature is useful from a Legal Intercept requirements perspective and enables the ability to mirror packets in both uplink and downlink directions for Wi-Fi clients that have a CALEA warrant.
Support for northbound tunnels L2oGRE	This feature enables SmartZone Data Plane to forward WiFi client traffic to a specified 3rd party WAG (Wireless Access Gateway) over L2oGRE protocol standard.
IPv6 support	Supports IPv6 addressing for the SmartZone Data Plane interfaces as well as support forwarding of IPv6 client traffic
L3 Roaming (inter SmartZone Data Plane tunnels)	This feature enables L3 Roaming when traffic is tunneled to the SmartZone Data Plane. The feature relies on inter SmartZone Data Plane flexi-vpn tunnels that are dynamically created with minimal user intervention. L3 Roaming can be enabled based on VLANs or subnets.

	Controller-Less	Cloud
Feature	Unleashed	RUCKUS Cloud
Number of APs supported	Up to 128	Virtually unlimited number of APs supported
Number of switches supported	Up to 8 switches	Virtually unlimited number of switches supported
Clients	up to 2,048	Clients per AP: refer to AP data sheet
Ethernet ports	Refer to selected AP data sheet	N/A
Authentication support	802/1x. local database, Active Directory, RADIUS, LDAPr	PSK, 802.1x, Active Directory, RADIUS, LDAP, SMS, social login, open
Guest networking/ captive portal	✓	✓
DHCP server	✓	External or assigned
AP discovery and control	L2	L2
SSID/WLAN support	16	15/Venue
Management Interface	Web GUI, CLI, Unleashed Multi-Site Manager	Web GUI and native mobile application
Remote Management	Yes	Yes
Management protocol(s)	SNMP v3	N/A
VLAN support	Yes	Dynamic VLANs
Data Plane	Local breakout	Local breakout
Power supply	PoE	APs powered using PoE or optional power supply
Fans	N/A	N/A
SKU/Part number	Refer to Unleashed data sheet for supported devices	Refer to RUCKUS Cloud data sheet for supported devices

Feature	Access		Access / Aggregation			Aggregation / Core	
	ICX 7150	ICX 8200	ICX 7450	ICX 7550	ICX 7650	ICX 7750	ICX 7850
Switching Capacity (max)	304Gbps	720Gbps	336Gbps	1,020Gbps	1.128Tbps	2.56Tbps	6.4Tbps
1GbE RJ-45 ports	10, 12, 24 or 48 (+ 2)	8, 24 or 48	24 or 48	24 or 48	48	48	48
1GbE SFP ports (max)	8	48	48	48	48	48	48
1/2.5GbE RJ-45 ports (max)	16	16		12 or 36			
1/2.5/5/10GbE RJ-45 ports (max)	2	4		12	24		
10GbE SFP+ ports (max)	8	24	12	24	24 +4	96[1]	128[1]
10GbE RJ-45 ports (max)	2	4	12		24	48	48
25GbE SFP28 ports		8					48
40GbE QSFP+ ports (max)			3	4	2	32	
100GbE QSFP28 ports (max)				3	2		32
PoE Power Budget (max)	1480W	1480W	1480W	2000W	1500W		
Switches per stack (max)	12	12	12	12	12	12	12
Aggregate stack bandwidth	480Gbps	1.2Tbps	960Gbps	2.4Tbps	2.4Tbps	5.76Tbps	9.6Tbps

[1] Requires QSFP+ splitter cables

Feature	Access		Access / Aggregation			Aggregation / Core	
	ICX 7150	ICX 8200	ICX 7450	ICX 7550	ICX 7650	ICX 7750	ICX 7850
PoE/PoE+	✓	✓	✓	✓	✓		
Long-Distance Stacking	✓	✓	✓	✓	✓	✓	✓
sFlow	✓	✓	✓	✓	✓	✓	✓
Layer 3 (STATIC, RIP, OSPF)	✓	✓	✓	✓	✓	✓	✓
OpenFlow with Hybrid Port Mode	✓	✓	✓	✓	✓	✓	✓
RUCKUS Campus Fabric	✓		✓		✓	✓	✓
Redundant Power Option	✓	✓	✓	✓	✓	✓	✓
PoH (90W PoE power per port)	✓	✓	✓	✓	✓		
Hot Swap Internal power supplies and fans	✓	✓	✓	✓	✓	✓	✓
EEE (Energy Efficient Ethernet)	✓	✓	✓	✓	✓		
VRF		✓	✓	✓	✓	✓	✓
IPsec VPN (with service module)			✓				
MACsec			✓	✓	✓		✓
BGP			✓	✓	✓	✓	✓
Reversible airflow option			✓	✓	✓	✓	✓
VxLAN		✓[1]		✓	✓	✓	✓
Multi Chassis Trunking (MCT)					✓	✓	✓
Unified network management options	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed • RUCKUS Cloud	• SmartZone • Unleashed	• SmartZone • Unleashed • RUCKUS Cloud

[1] Available in a future software release.

Network Monitoring

Network Director (Centralized Inventory Management software)		Network Director provides a robust single-pane-of-glass view of your entire converged RUCKUS Wi-Fi and switch network. Network Director provides multi-cluster inventory control and management of all SmartZone network controllers for improved tracking and manageability.
RUCKUS Unleashed Multi-Site Manager		Unleashed Multi-Site Manager provides a single-pane-of-glass view of Unleashed networks deployed across multiple locations. It simplifies deployment, monitoring and management of Unleashed access points and ICX switches.

Software

IoT Suite (Internet of Things Management server)		RUCKUS IoT Suite is a software controller that support IoT devices from the RUCKUS IoT Ecosystem. Our IoT Ecosystem partners offer panic buttons, door locks, thermostats, etc. running BLE, Zigbee, Bluetooth, LoRA, etc. wireless interfaces.
RUCKUS Analytics (Service Assurance)		RUCKUS Analytics is a cloud service for network analytics and assurance. Powered by machine learning and artificial intelligence, it gives IT comprehensive visibility into network operations and accelerates troubleshooting. RUCKUS analytics delivers powerful incident analytics and automated health monitoring among other things to enable IT to meet their network service level agreements (SLAs).
SmartCell Insight (SCI) (Reporting and Dashboards)		RUCKUS SmartCell Insight is software that delivers detailed reporting and informative dashboards for your RUCKUS network. It aggregates data from applications, users, devices, access points, controllers and switches to provide visibility into network operations. The software helps you to manage the network more effectively and improve user experience.
Cloudpath Enrollment System (Secure Network Access)		RUCKUS Cloudpath Enrollment System is a cloud service (or on-premises software) that delivers secure network access for any user, and any device, on any network. It streamlines network onboarding and authentication for BYOD, guest users and IT-owned devices—including IoT devices. The service increases security and reduces IT workload while providing a great end-user connectivity experience.
Smart Positioning Technology SPoT (Location engine and analytics software)		The RUCKUS real-time location engine and analytics software enables retailers, stadiums, and transportation hubs to enhance the way they interact with customers based on precise location. Deployed on top of RUCKUS Smart Wi-Fi, the RUCKUS SPoT does not require any additional hardware and has unlimited scalability in the cloud. Send real-time travel updates, targeted promotions, and even classroom notes through footfall traffic and proximity analytics to enrich customer relationships.

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